DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-002614
Date Inspected: 16-May-2008

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 1330
OSM Departure Time: 2230
Location: Shanghai, China

CWI Name:	See below	**CWI Present:**	☑ Yes ☐ No
Inspected CWI report:	☐ Yes ☑ No ☐ N/A	**Rod Oven in Use:**	☑ Yes ☐ No ☐ N/A
Electrode to specification:	☑ Yes ☐ No ☐ N/A	**Weld Procedures Followed:**	☑ Yes ☐ No ☐ N/A
Qualified Welders:	☑ Yes ☐ No ☐ N/A	**Verified Joint Fit-up:**	☑ Yes ☐ No ☐ N/A
Approved Drawings:	☑ Yes ☐ No ☐ N/A	**Approved WPS:**	☑ Yes ☐ No ☐ N/A
		Delayed / Cancelled:	☐ Yes ☑ No ☐ N/A

Bridge No: 34-0006
Component: Tower and OBG Fabrication

Summary of Items Observed:

Caltrans Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

CWI Inspector: Mr. Zhand Bao Lei, Mr. Liu Huajie,

New Tower Shop Bay 1

The QA Inspector observed ZPMC welder Ms. Chen Hong Xia stencil 40460 is using welding procedure specification WPS-B-T-2221-B-L3C-S-1 to make submerged arc groove weld SSDI_SA17 A/G-16B. The QA Inspector observed a welding current of approximately 530 amps, 30.0 volts and the base material appears to be between 110°C and 230°C. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZMPC personnel performing heat straightening of plate SA17 (N)-1 as directed by document HSR1(T)1745. The QA Inspector observed ZPMC personnel monitoring the maximum heat temperature of these plates and the QA Inspector observed the plates being flame straightened do not appear to be exceeding the maximum temperature as listed on the HSR1(T)1745 document.

Bay 3

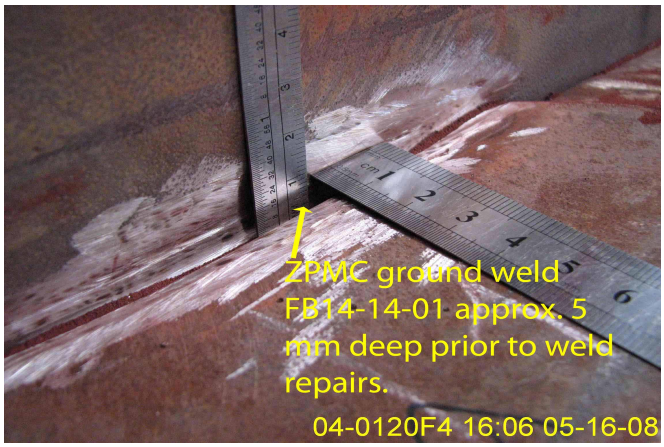
The QA Inspector observed ZPMC welder Mr. Zhang Feng stencil 49769 is using shielded metal arc welding procedure WPS-B-P-2112-FCM to make fillet tack welds on OBG PL510, side plate SP-81B stiffener weld SP081-001-033. The QA Inspector observed THJ 506fe-1 E7018 4.0 mm diameter electrodes, a welding current of approximately 180 amps and a minimum base material preheat temperature of 40° C. Items observed by the QA Inspector appear to comply with project specifications.

Bay 6

The QA Inspector observed ZPMC welder Mr. Renjin Zho stencil 44837 is using welding procedure specification WPS-B-P-2114 to make floor beam weld FB004-13-44 in the 3F (vertical) position. The QA Inspector confirmed Mr. Zho has been qualified to weld in the 3F position. The QA Inspector observed E7018 4mm diameter shielded metal arc welding electrodes with a current of approximately 150 amps. Items observed by the QA Inspector appear to comply with project specifications.

Bay 7

At around 1545 hours the QA Inspector was informed that ZPMC has identified one of the tack welds in floor beam FB014-014-001 has a weld crack. At approximately 1550 hours, (five minutes after notification) the QA Inspector arrived in bay 7 and the QA Inspector observed the cracked tack weld in floor beam FB014-014-001 has been ground out and the base material has been gouged to a depth of approximately 5 mm. Note: ZPMC performed this work prior to the arrival of the QA Inspector. The QA Inspector observed ZPMC QC magnetic particle inspector Mr. Cai Xinxin performing a magnetic particle inspection of the weld removal area and after the gouge had been ground to a depth of approximately 6 mm Mr. Cai Xinxin determined the crack had been removed and the MT inspection is acceptable. The QA Inspector measured the depth of the gouge to be approximately 6 mm deep. The QA Inspector also performed a visual and magnetic particle inspection of the gouged area and items observed appear to comply with project specifications. The QA Inspector performed random visual inspections of the other tack welds on floor beam FB014-014-001 and no other tack welds appear to have similar linear indications. Note: this plate is approximately 30 mm thick and based on the depth of the gouge the repairing of this gouge is not considered a critical weld repair. See TL-6027 report titled: “Magnetic Particle Test Report” and the two photographs below for additional information.



WELDING INSPECTION REPORT

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Summary of Conversations:

See above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Patrick Lowry (858) 344-2712, who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer